

Mazda Motor Corporation

2020 Mid-Model Year Automotive Fuel Economy Report

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ATTACHMENT I Passenger Car and Light Truck Fuel Economy Information

ATTACHMENT II NHTSA CAFE Projections Reporting Template

File Name: NHTSA CAFE Projections Reporting Template
v1.0_██████████2020Mid_Mazda.xlsm

Note:

For the official CAFE fleet average values, please refer to the ATTACHMENT IV CAFE Credits Balance Chart.

There were discrepancies between the values automatically calculated by the template and those calculated by Mazda. Mazda is checking them with NHTSA, but they are not resolved yet. Therefore, for the report this time, we would like you to regard the values calculated by Mazda as the official ones.

ATTACHMENT III Fuel Economy Methodology Used in Projecting CAFE

ATTACHMENT IV Addendum to the Report

ATTACHMENT V CAFE Credits Balance Chart

Mid-Model Year Report for Model Year 2020

1. Information for the Passenger Automobiles

1-1. Projected Average Fuel Economy:

	Baseline CAFE (w/o FCIV)	Final CAFE (w/ FCIV)	MFR Projected Reformed CAFE Standard
Import PC CAFE	38.4	38.8	43.8
Domestic PC CAFE	38.3	38.9	45.1

1-2. Model type and configuration fuel economy and technical information

1-2-1. By Model Type

1-2-1-1. Combined fuel economy and projected production volume for Import Carlines

Model Type	Combined Fuel Economy	Projected Production Volume	Total Projected Production Volume
MAZDA2 (1.5L) M6 SIL	47.1	[16]	[110069]
MAZDA2 (1.5L) S6	48.5	[46]	
MX-5 (Soft Top & RHT) (2.0L) M6 SIL	39.3	[4570]	
MX-5 (Soft Top & RHT) (2.0L) S6	40.3	[2800]	
CX-3 2WD (2.0L) S6	41.9	[2466]	
CX-3 4WD (2.0L) S6	39.6	[3548]	
MAZDA3 4-Door 2WD (2.5L_w/o Cylinder Deactivation) S6	40.1	[13627]	
MAZDA3 4-Door 2WD (2.5L_w/ Cylinder Deactivation) S6	41.0	[2271]	
MAZDA3 4-Door 4WD (2.5L_w /Cylinder Deactivation) S6	38.2	[6814]	
MAZDA3 5-Door 2WD (2.5L_w/ Cylinder Deactivation) M6 SIL	39.4	[584]	
MAZDA3 5-Door 2WD (2.5L_w/ Cylinder Deactivation) S6	40.1	[6418]	
MAZDA3 5-Door 4WD (2.5L_w/ Cylinder Deactivation) S6	37.0	[4668]	
MAZDA6 (2.5L_w/ Cylinder Deactivation) S6	39.8	[8293]	
MAZDA6 (2.5L_T/C) S6	35.3	[10554]	
CX-5 2WD (2.5L_w/ Cylinder Deactivation) S6	37.1	[43394]	

1-2-1-2. Application of air conditioning, off-cycle efficiency improvement technology for Import Carlines

Projected A/F efficiency credits: 0 megagrams

Projected off-cycle technology credits: 56661 megagrams

1-2-1-3. Combined fuel economy and projected production volume for Domestic Carlines

Model Type	Combined Fuel Economy	Projected Production Volume	Total Projected Production Volume
CX-30 2WD (2.5L_w/o Cylinder Deactivation) S6	38.2	[12061]	[15635]
CX-30 2WD (2.5L_w/ Cylinder Deactivation) S6	37.6	[3574]	

1-2-1-4. Application of air conditioning, off-cycle efficiency improvement technology for Domestic Carlines

Projected A/F efficiency credits: 0 megagrams

Projected off-cycle technology credits: 10214 megagrams

2. Information for the Non-passenger Automobiles

2-1. Projected Average Fuel Economy

	Baseline CAFE (w/o FCIV)	Final CAFE (w/ FCIV)	MFR Projected Reformed CAFE Standard
Truck CAFE	33.8	34.5	34.8

2-2. Model type and configuration fuel economy and technical information:

2-2-1. By Model Type

2-2-1-1. Combined fuel economy and projected production volume

Model Type	Combined Fuel Economy	Projected Production Volume	Total Projected Production Volume
CX-30 4WD (2.5L_w/o Cylinder Deactivation) S6	35.5	[20995]	[134713]
CX-30 4WD (2.5L_w/ Cylinder Deactivation) S6	37.0	[8041]	
CX-5 4WD (2.5L_w/ Cylinder Deactivation) S6	35.2	[59065]	
CX-5 4WD (2.5L_T/C) S6	31.7	[18081]	
CX-9 2WD (2.5L_T/C) S6	32.4	[9986]	
CX-9 4WD (2.5L_T/C) S6	29.8	[18545]	

2-2-1-2. Application of air conditioning, off-cycle efficiency improvement technology, full-size pick-up trucks

Projected A/F efficiency credits: 0 megagrams

Projected off-cycle technology credits: 172767 megagrams

Fuel Economy Methodology Used in Projecting CAFE Values

Derived Fuel Economy Values

As provided for by 49 CFR §537.9 (a) (2) and (3), Mazda has used data substitutions where no EPA-approved or Mazda test results exist at the appropriate sub-configuration level for minimum test requirements. These values were derived from a base configuration (ETW), axle ratio, road load horsepower, etc., and engineering judgment.

Addendum to the Report

The information contained in this report is, to the best of Mazda's knowledge, accurate and complete. In accordance with 49 CFR §537.7 (b) (2), (4) and (5), this report is filed subject to the following provisions:

Based on currently available information, we believe that the projected average fuel economy set forth in this report sufficiently represents Mazda Motor Corporation's average fuel economy for the 2020 model year. If changes in consumer demand or other unforeseen events cause a significant shift in Mazda's production/sales mix, Mazda reserves the right to adjust its projections accordingly.

CAFE Credits Balance Chart

Mazda
2020 Mid-MY Report

Date of Transaction	Model Year	Transaction	Category	Fleet Average Compliance Level			Fuel Consumption Improvement							Total Fleet Average CAFE Credits / Deficits ((B)-(A))x(C)x10
				Applicable Standards (A)	Domestic PC Min. Standard	AFE (AFE _{std} for PC category) (B)	Production Volume (C)	A/C Efficiency Credits	FCV _{AC} (Efficiency)	Off-Cycle Technology Credits	FCV _{CC}	Full-Size Pickup Truck Credits	FCV _{PU}	
				mile/gallon	mile/gallon	mile/gallon	units	megagrams	gallon/mile	megagrams	gallon/mile	megagram	gallon/mile	
3/29/2010 (LCE-10/031) 4/13/2010 (LCE-10/036)	2009	Earned	Car_Import	27.5	---	32.6	54,862	---	---	---	---	---	2,797,962	
		Earned	Car_Domestic	27.5	---	30.4	39,504	---	---	---	---	---	1,145,616	
		Earned	Truck	23.1	---	26.6	54,508	---	---	---	---	---	1,907,780	
3/30/2011 (LCE-11/043)	2010	Earned	Car_Import	27.5	---	33.8	212,495	---	---	---	---	---	13,387,185	
		Earned	Car_Domestic	---	---	---	---	---	---	---	---	---	0	
		Earned	Truck	23.5	---	26.7	98,444	---	---	---	---	---	3,150,208	
3/28/2012 (LCE-12/042)	2011	Earned	Car_Import	30.7	---	33.8	181,202	---	---	---	---	---	5,617,262	
		Earned	Car_Domestic	31.1	27.8	31.8	2,218	---	---	---	---	---	15,526	
		Earned	Truck	25.6	---	24.7	33,692	---	---	---	---	---	-303,228	
3/15/2013 (LCE-13/37)	2012	Earned	Car_Import	33.9	---	37.9	213,308	---	---	---	---	---	8,532,320	
		Earned	Car_Domestic	---	30.7	---	---	---	---	---	---	---	0	
		Earned	Truck	27.2	---	27.8	65,696	---	---	---	---	---	394,176	
3/28/2014 (LCE-14/035) 3/31/2014 (LCE-14/041)	2013	Earned	Car_Import	34.8	---	39.4	164,862	---	---	---	---	---	7,583,652	
		Earned	Car_Domestic	---	31.4	---	---	---	---	---	---	---	0	
		Earned	Truck	28.1	---	30.4	61,093	---	---	---	---	---	1,405,139	
3/26/2015 (LCE-15/042)	2014	Earned	Car_Import	34.4	---	41.5	217,333	---	---	---	---	---	15,430,643	
		Earned	Car_Domestic	---	32.1	---	---	---	---	---	---	---	0	
		Earned	Truck	28.9	---	31.4	78,826	---	---	---	---	---	1,970,650	
3/30/2016 (LCE-16/045)	2015	Earned	Car_Import	35.5	---	41.9	207,100	---	---	---	---	---	13,254,400	
		Earned	Car_Domestic	---	33.3	---	---	---	---	---	---	---	0	
		Earned	Truck	30.0	---	31.6	78,793	---	---	---	---	---	1,260,688	

Credit Transactions								Model Year Credit Balance	
Transfer From				Transfer To				Model Year Total CAFE Credit Status	Available Model Years
Company	Model Year	Fleet	No. of Credits	Company	Model Year	Fleet	No. of Credits		
								Expired in 2014MY	0 up to and incl. 2014MY
								Expired in 2014MY	0 up to and incl. 2014MY
				Mazda	2011 Truck			-303,228	0 up to and incl. 2014MY
								Expired in 2014MY	
								Expired in 2015MY	0 up to and incl. 2015MY
								Expired in 2015MY	0 up to and incl. 2015MY
								Expired in 2015MY	0 up to and incl. 2015MY
								Expired in 2015MY	0 up to and incl. 2015MY
								Expired in 2018MY	0 up to and incl. 2018MY
								Expired in 2018MY	0 up to and incl. 2018MY
Mazda	2009 Truck		303,228					-15,526	0 up to and incl. 2016MY
				Ford Motor Company PC	2012 PC			-1,210,000	Trade, 8/1/2013
								Expired in 2017MY	0 up to and incl. 2017MY
								Expired in 2017MY	0 up to and incl. 2017MY
				Jaguar Land Rover LT	2012 Truck			-394,176	0 Trade, 4/17/2014
								2018 Car_Import	0 up to and incl. 2018MY
								Expired in 2018MY	0 up to and incl. 2018MY
								Expired in 2018MY	0 up to and incl. 2018MY
								Expired in 2018MY	0 up to and incl. 2018MY
								2018 Car_Import	up to and incl. 2019MY
								Expired in 2019MY	0
								Expired in 2019MY	0 up to and incl. 2019MY
								Expired in 2019MY	0 up to and incl. 2019MY
								Expired in 2019MY	0 up to and incl. 2019MY
								2020 Car_Import	up to and incl. 2020MY
								2020 Car_Domestic	7,464,139
								-286,611	0 up to and incl. 2020MY
								2020 Truck	856,549 up to and incl. 2020MY

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CAFE Credits Balance Chart

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Date of Transaction	Model Year	Transaction	Category	Fleet Average Compliance Level			Fuel Consumption Improvement						Total Fleet Average CAFE Credits / Deficits ([B]-[A])x[C]x10 [B]	
				Applicable Standards [A]	Domestic PC Min. Standard	AFE (AFE _{std} for PC category) [B]	Production Volume [C]	A/C Efficiency Credits	FCV _{Ac} Efficiency	OR-Cycle Technology Credits	FCV _{cc}	Full-Size Pickup Truck Credits		FCV _{fu}
				mile/gallon	mile/gallon	mile/gallon	units	megagrams	gallon/mile	megagrams	gallon/mile	megagram		gallon/mile
3/22/2017 (LCE-17/048)	2016	Earned	Car_Import	37.3	—	42.1	305,635	—	—	—	—	—	14,670,480	
		Earned	Car_Domestic	—	34.7	—	—	—	—	—	—	—	0	
		Earned	Truck	31.4	—	34.2	153,192	—	—	—	—	—	4,289,376	
3/15/2018 (LCE-18/043) 2/26/2019 (LCE-19/028)	2017	Earned	Car_Import	39.4	—	40.4	182,534	—	—	6,337	0.000020006	—	1,825,340	
		Earned	Car_Domestic	—	36.7	—	—	—	—	—	—	—	0	
		Earned	Truck	32.3	—	33.8	74,414	—	—	8,137	0.000054476	—	1,116,210	
3/15/2019 (LCE-19/033) 4/22/2019 (LCE-19/056) 6/24/2020 (LCE-20/076)	2018	Earned	Car_Import	40.6	—	38.5	110,582	0	0.000000000	50,303	0.000262139	—	-2,322,222	
		Earned	Car_Domestic	41.2	38.0	41.9	83,239	0	0.000000000	24781.0	0.000153158	—	652,873	
		Earned	Truck	32.8	—	34.4	115,014	0	0.000000000	117,937	0.000510852	—	1,840,224	
3/17/2020 (LCE-20/033) 6/25/2020 (LCE-20/078)	2019	Earned	Car_Import	42.8	—	39.1	138,819	0	0.000000000	54,514	0.000226299	—	-5,136,303	
		Earned	Car_Domestic	46.8	39.4	48.8	186	0	0.000000000	47	0.000145615	—	4,092	
		Earned	Truck	33.6	—	34.1	128,015	0	0.000000000	142,061	0.000552853	—	640,075	
2020 (2020MY Mid CAFE Report Projected Values)	2020	Projection	Car_Import	43.8	—	38.8	110,069	0	0.000000000	56,861	0.000296646	—	-5,503,450	
		Projection	Car_Domestic	45.1	40.9	38.9	15,635	0	0.000000000	10,214	0.000376462	—	-968,370	
		Projection	Truck	34.8	—	34.5	134,713	0	0.000000000	172,787	0.000638921	—	-404,139	

Credit Transactions								Model Year Credit Balance	
Transfer From				Transfer To				Model Year Total CAFE Credit Status	Available Model Years
Company	Model Year	Fleet	No. of Credits	Company	Model Year	Fleet	No. of Credits		
								14,670,480 up to and incl. 2021MY	
								0 up to and incl. 2021MY	
								4,289,376 up to and incl. 2021MY	
								1,825,340 up to and incl. 2022MY	
								0 up to and incl. 2022MY	
								1,116,210 up to and incl. 2022MY	
Mazda	2013	Car_Import	2,322,222					0 up to and incl. 2023MY	
					2020	Car_Domestic	-652,873	0 up to and incl. 2023MY	
								1,840,224 up to and incl. 2023MY	
Mazda	2014	Car_Import	5,136,303					0 up to and incl. 2024MY	
					2020	Car_Domestic	-3,997	95 up to and incl. 2024MY	
								640,075 up to and incl. 2024MY	
Mazda	2015	Car_Import	5,503,450					0 up to and incl. 2025MY	
Mazda	2015	Car_Import	312,700						
Mazda	2018	Car_Domestic	652,873					0 up to and incl. 2023MY	
Mazda	2019	Car_Domestic	3,997						
Mazda	2015	Truck	404,139					0 up to and incl. 2025MY	

Total CAFE Credits Balance at the end of 2020MY (Passenger Car_Import)	23,959,969
Total CAFE Credits Balance at the end of 2020MY (Passenger Car_Domestic)	95
Total CAFE Credits Balance at the end of 2020MY (Truck)	8,742,434